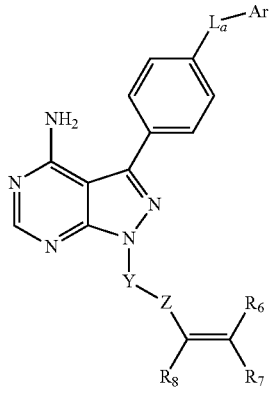
en-1-one; and 1-((S)-3-(4-amino-3-(4-phenoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)piperidin-1-yl) prop-2-en-1-one.

10. The method of claim **2**, wherein the inhibitor is a compound of Formula (D) or a pharmaceutically acceptable salt thereof:

Formula (D)



wherein:

L_a is O or S;

Ar is an unsubstituted phenyl;

Y is a 4-, 5-, 6-, or 7-membered cycloalkyl ring, or

Y is azetidinyl, pyrrolidinyl, piperidinyl, or azepanyl;

Z is C(=O), OC(=O), NHC(=O), $S(=O)_x$, or NHS $(=O)_x$, where x is 2;

R_8 is H; R_7 is H; or

R_7 and R_8 taken together form a bond; and

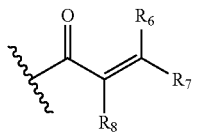
R_6 is H.

11. The method of claim **1**, wherein R_2 and R_3 are each independently H.

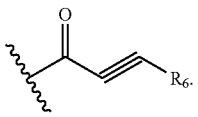
12. The method of claim **1**, wherein R_1 is a substituted phenyl.

13. The method of claim **1**, wherein R_4 is L_3-X-L_4-G wherein L_3, X and L_4 taken together form a nitrogen containing heterocyclic ring.

14. The method of claim **1**, wherein G is

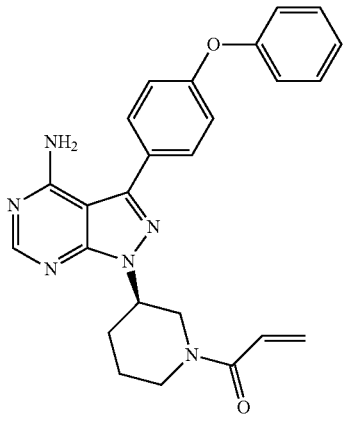


or



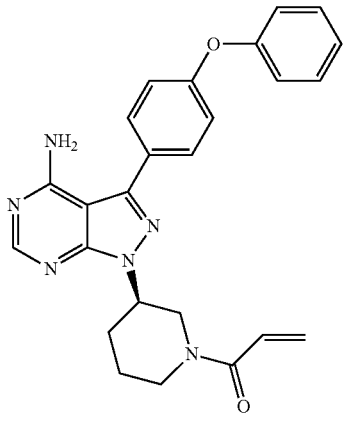
15. The method of claim **1**, wherein R_6, R_7, and R_8 are each independently H.

16. The method of claim **1**, wherein the compound has the structure



or a pharmaceutically acceptable salt thereof.

17. A method for treating a blood cell cancer comprising administering to a subject in need thereof a composition containing a therapeutically effective amount of an inhibitor of a tyrosine kinase, wherein the tyrosine kinase is interleukin-2-inducible tyrosine kinase (ITK) or Bruton's tyrosine kinase, wherein the inhibitor has the structure



or a pharmaceutically acceptable salt thereof.

18. The method of claim **17**, wherein the blood cell cancer is a mast cell malignancy.

19. The method of claim **18**, wherein the blood cell cancer is a lymphoma.

20. The method of claim **19**, wherein the lymphoma is diffuse large B-cell lymphoma, follicular lymphoma, lymphoplasmacytic lymphoma/Waldenström macroglobulinemia, splenic marginal zone lymphoma, extranodal marginal zone B cell lymphoma, nodal marginal zone B cell lymphoma, mantle cell lymphoma, mediastinal (thymic) large B cell lymphoma, intravascular large B cell lymphoma, or primary effusion lymphoma.

21. The method of claim **1**, wherein the blood cell cancer is a leukemia.

22. The method of claim **21**, wherein the leukemia is chronic lymphocytic leukemia.

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